pressed in two terms, is employed as the form of reduction to the meridian.

The major term, depending upon the second power of the hour-angle, has been tabulated by the author for each degree of latitude up to 65° and from degree to degree of declination for each two minutes of hour-angle up to sixty minutes or to such lesser extent as marks the limit at which the minor term of the reduction amounts to less than 45″.

The second or minor term of the reduction, depending upon the fourth power of the hour-angle, is expressed in the form of a diagram, from which the numerical value of this part of the reduction may be readily determined.

As the intervals between the arguments of the tabulation of the major term are such that in general the tables must be entered with the approximate latitude and the approximate declination and the approximate hour-angle, convenient auxiliary tables have been supplied for taking account of the effect upon the result of differences between the exact values and the tabular values of the data. Various other diagrams and tables, providing for the identification of stars, facilitating the solution of the equation of equal altitudes, and reducing measured altitudes to true altitudes are also presented to contribute to the completeness of the work.

A navigator who makes this book one of his possessions and utilizes the information contained in it will be repaid many times through the practical benefits that he will derive from it in his daily work. G. W. LITTLEHALES

Chemische Krystallographie. By P. VON GROTH. Vol. 2. Pp. viii + 914, 522 figures, 8vo, cloth, 32 marks. Leipzig, Wilhelm Engelmann. 1908. (Volumes 3 and 4 are in preparation.)

Two years ago the first volume of this very important work by Professor P. von Groth appeared. Since then the volume has proved of such great assistance to all interested in crystallized substances, but more especially to the chemical crystallographer, that the second volume, which was promised over a year ago, has been eagerly awaited. A review of Volume 1 may be found on pages 143 and 144, Vol. XXV., of SCIENCE.

In Volume 2 the inorganic oxy- and sulfosalts are discussed. The arrangement of the first volume is retained throughout. This consists of placing together all compounds of similar chemical composition and prefacing each group with a critical résumé of the work done upon the same, so that one can see at a glance what gaps exist and also along what lines further research may be necessary. This feature alone makes the work invaluable. The descriptions of the individual members of the group, which then follow, furnish all the data extant which are of use or interest to the chemical crystallographer. This volume is in every respect up to the high standard set by Volume 1. It is hoped that the remaining volumes, 3 and 4, may follow in rapid succession.

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House Painting, Glazing, Paper Hanging and White-washing. A book for the householder. By ALVAH HORTON SABIN, M.S. 8vo, cloth, pp. 121. New York, John Wiley & Sons. 1908.

This is a thoroughly reliable, readable book, dealing with the subjects of exterior and interior painting, varnishing, papering, kalsomining, white-washing and the painting of structural metal. Technical terms and long-winded descriptions are avoided, and the book should be read by every house user and owned by every house owner. The author's statement to the effect that "the talk about people being poisoned by arsenic in wall paper is nonsense," is unfortunate, as the reviewer knows certainly of one case proved to be due to this cause. A. H. GILL

Modern Pigments and their Vehicles, their Properties and Uses, considered mainly from the practical side. By FREDERICK MAIRE. 8vo, cloth, pp. 266. New York, John Wiley & Sons. 1908.

This is a most excellent book written by one who evidently knows the practical side thor-